Poster Title: **A new method for the determination of isoxadifen ethyl in crop and animal matrices using LC-MS/MS with isotopically labeled internal standards.**

Brief Abstract:

Isoxadifen ethyl belongs to a growing class of compounds known as safeners which, when added to certain herbicide formulations, enhance the tolerance of the target crop towards the herbicide. An analytical enforcement method was previously developed to determine the residues of isoxadifen ethyl and its major metabolites in corn and rice by gas chromatography equipped with ion trap mass spectrometer (Ion-Trap GC/MS). The method is tedious involving extraction, partition with hexane and methylene chloride and then derivatization with trimethylsilyldiazomethane (TMSDM). About 6-8 samples can be extracted and readied for instrumental analysis in the course of a normal 8-hour working day. In this paper, a new method based on the use of isotopically labeled internal standards and detection by liquid chromatography equipped with tandem mass spectrometer (LC-MS/MS) is described. This new method does not involve derivatization and twenty or more samples can easily be prepared in a normal 8-hour working day. The method has been validated in corn and chicken tissue with limit of quantitation (LOQ) of 0.02 ppm in corn grain and 0.05 ppm in corn forage, stover and chicken tissues.

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